## REMARKS

Applicants appreciate the phone conference with Examiner Lee wherein he indicated that the Rule 116 Amendment raised new issues. This Preliminary Amendment basically re-presents the Rule 116 Amendment, revised to correct a typographical error in Claim 58.

The Office Action rejected Claims 58-65 as failing to comply with the written description requirement of 35 USC §112, first paragraph, purportedly because a test or scale used to measure hardness for plastic material was not found in the instant application.

Applicants note that a patent application is not to be a production specification and that the first paragraph of 35 USC §112 acknowledges that the subject matter of a patent application is directed to a person of ordinary skill in a particular field and provides adequate disclosure if such a person is not required to engage in undue experimentation.

The test of an enablement is set forth in the MPEP §2164.01 which requires an analysis of whether a particular claim is supported by a disclosure in an application by determining whether that disclosure contains sufficient information regarding the subject matter of the claims as to enable one skilled in the pertinent art to make and use the claimed invention. As further set forth, the test of enablement is whether one reasonably skilled in the art can make or use the invention from the disclosures in the patent coupled with information known in the art without undue experimentation.

Factors to consider for undue experimentation are set forth in the MPEP §2164.01(a). With reference to our present claims and specification, our application more than adequately indicates that a thermal plastic elastomer is to be used for a skin flesh material and is to be appropriately welded to a polyolefin such as polypropylene (see page 11, lines 12-20 and page 12, lines 17-25 of the present application). Additionally, on page 13 a styrene elastomer which is

specifically defined by a trademark LEOSTOMER sold by the Reiken Vinyl Industry Company Limited and having a hardness preferably of 15 is utilized. Thus, there is no experimentation to secure the appropriate thermoplastic elastomer since even the supply and source are identified along with a hardness value.

The Office Action, however, contended that a hardness value would not provide a point of reference to a person of skill in this field. Applicants respectfully traverse this position. Reference can be made to the website WWW.MATWEB.COM/REFERENCE/SHORE/ HARDNESS/ASP. Enclosed are pages from this website.

It is well known in the molding of plastic and rubber material that a hardness is measured and for soft plastic, a Shore A value is used as set forth in our present specification. Additionally, the present invention indicates that it is preferable that the materials that are selected have a capacity to weld together to improve the tactile feel and performance of the resulting elastic doll. A rigid core of polypropylene is described on page 14, lines 21-25 as having a hardness value of 25-35.

Accordingly, applicants submit that the hardness value with respect to the listed hardness numbers are well known to a person of ordinary skill in this field and would not require any experimentation, let alone undue experimentation under 35 USC §112. Thus, it would appear that the teachings of *In Re Wands*, 858 F.2d 731, 737 (Fed.Cir. 1988) as cited and relied upon in MPEP §2164.01(a) are equally applicable to our present set of circumstances.

In order to remove any issue in accordance with 37 CFR §1.116, applicants have appropriately amended independent Claim 58 and dependent Claim 64.

The Office Action contended that the *Robinson* reference anticipated every claimed feature in Claim 18. The Office Action disregarded the specific material cited in the teaching of

our present invention and simply contended that our skin flesh member would be a PVC material without any regard for the significance of the relative hardness numbers clearly set forth in our specification.

Based on that premise, the Office Action then further contended that applicants' arguments were confusing because *Robinson* uses a polypropylene and vinyl resin "like the instant invention". The conclusion being that polypropylene and simply any vinyl resin such as the polyvinylchloride of the *Robinson* reference would be equivalent. *Robinson*, however, clearly teaches that no welding will occur between its polyvinylchloride and the flesh colored polypropylene material. As we have already noted in our prior response, the *Robinson* reference would be inoperative in providing its feature of removable swim fins if in fact the materials welded together. Removable swim fins for removing it from the feet of the *Robinson* doll is exactly as the teaching states, namely there is not a welding between the material, but rather a small, thin linking portion of the swim fins with the body of the doll is provided so that it can be broken and then easily removed and reinserted over the polypropylene feet.

Additionally, with regards to the reliance upon the *Robinson* '691 patent which is directed to removable fins for an aquanaut doll, it is respectfully submitted that the interpretation of this reference is inconsistent with the purposes of the present invention and would not be obvious under 35 USC §103.

> [I]t is generally settled that the change in prior art device which makes the device inoperable for its intended purpose cannot be considered to be an obvious change. *Hughes Aircraft Co. v. United States*, 215 U.S.P.Q. 787, 804 (Ct.Cl. Trial Div. 1982)

As noted, the *Robinson* reference wishes to have removable fins and uses a polyvinylchloride of a type that will not weld to the polypropylene feet.

Applicants specifically teach a material with hardness values that do create a specific welding of the material and specifically provide an identification of the material that will meet these requirements. The *Robinson* patent does not specify the same soft flesh material taught in the present specification.

Thus the lynch pin of the present rejection is the assumption that the same polyvinylchloride material is utilized in the present invention and accordingly would not provide our desired welding characteristic of the present invention.

The Office Action further contended that Claims 20-23, 25-26, 27-29, 31-32, and 57-65 were rejected as being obvious over *Robinson* even though the Office Action clearly admitted that *Robinson* does not teach using the following features of the Claims:

(1) the specific material for the skeleton and the skin member;

(2) treating marks left on the surface of the doll due to the removal of the projection portions;

(3) treating by melting the surface of the doll;

(4) directly abutting a rear surface of the distal end and each of the second cores against an inner surface of the molding space;

(5) treating the marks left due to the removal of the projected portions on the fixing shafts by a hot air procedure;

(6) using stainless steel or iron cores;

(7) two parallel wires for a frame to prevent sharp points;

(8) holding the frame magnetically during a molding step;

(9) arrangement of cores in a mold;

(10) arranging fixing shafts at site of injection pressure;

(11) hardness values of 25-35;

(12) hardness values of 10-20; and

(13) a styrene elastomer for the first resin.

The Office Action however contended that all these features would be simply matters of choice or design without citing any supporting references. In accordance with MPEP §707.02(a) applicants hereby traverse such an assertion of matters of common knowledge and request that references be cited in support of this position in order to permit applicants to adequately respond to such assertions.

The Office Action further cited the *Robinson* '691 patent in combination with the *Dahl* U.S. Patent No. 3,284,947 to reject Claims 24 and 30.

The *Dahl* reference was cited because it was directed to molding apparently a humanoid figure. The *Dahl* reference, however, is actually directed to a mannequin or apparently a life size doll that can be used for displaying clothing or even used to provide animated motion pictures. See column 2, lines 65-73. In such a large structure, there is an out-gasing problem from lead or solder wire. The present claims do not call for lead or solder wire and specifically define iron wires as the frame structure. Thus, the *Dahl* reference was principally concerning with de-gasing the deformable lead or solder wire.

The *Dahl* reference further requires tension relieving means that provide open spaces at the ends of the wires when they are connected to rigid sections and states that the rigid sections can be any rigid plastic, metal, wood or any other suitable material. Clearly the *Dahl* reference like the *Robinson* reference, does not teach an outer soft synthetic resin material that will weld to an inner, more rigid synthetic material forming a part of the metal frame.

Our claims specifically called for the skeleton forming material and the skin flesh forming material to be compatible with each other and to bind strongly together to ensure that there is no contortion or dislocation. The *Dahl* reference wishes to permit movement and is concerned with a problem not at issue in either the *Robinson* or our present invention.

More important, the *Dahl* reference does not address or suggest any of the numerous 13 features that the Office Action contended would simply be matters of choice or design without citing a reference.

In view of the above comments and the amendments to the claims, it is believed that the case is now in condition for allowance and early notification of the same is requested.

If the Examiner believes a telephone conference would assist in the prosecution of this matter, the undersigned attorney is available.

Very truly yours,

**SNELL & WILMER L.L.P.**

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# Shore (Durometer) Hardness Testing of Plastics

The hardness testing of plastics is most commonly measured by the Shore (Durometer) test or Rockwell hardness test. Both methods measure the resistance of plastics toward indentation and provide an empirical hardness value that doesn't correlate well to other properties or fundamental characteristics. Shore Hardness, using either the Shore A or Shore D scale, is the preferred method for rubbers/elastomers and is also commonly used for 'softer' plastics such as polyolefins, fluoropolymers, and vinyls. The Shore A scale is used for 'softer' rubbers while the Shore D scale is used for 'harder' ones. Other Shore scales, such as Shore O and Shore H hardness, are rarely encountered by most plastics engineers.

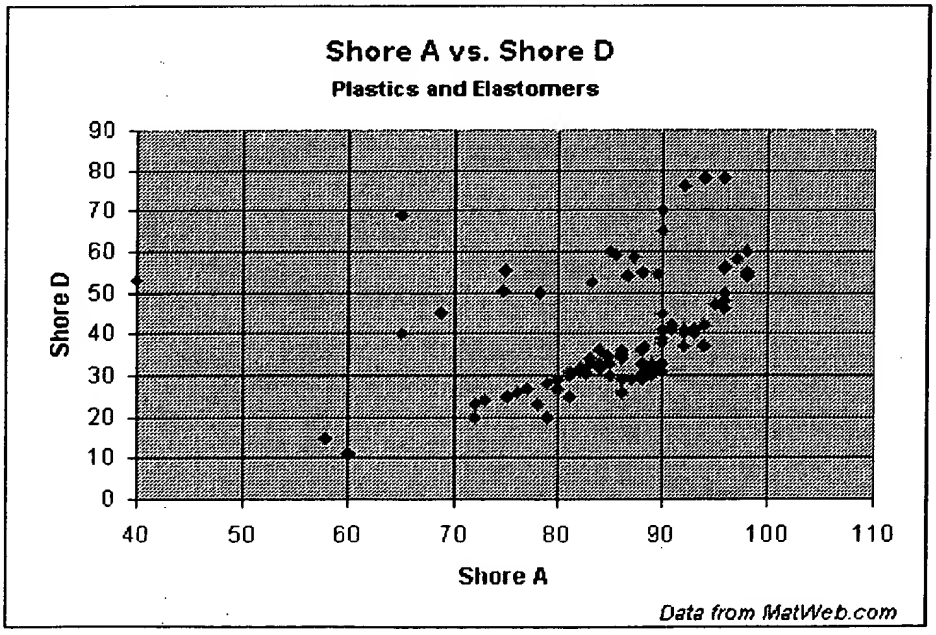
The Shore hardness is measured with an apparatus known as a Durometer and consequently is also known as 'Durometer hardness'. The hardness value is determined by the penetration of the Durometer indenter foot into the sample. Because of the resilience of rubbers and plastics, the indentation reading my change over time - so the indentation time is sometimes reported along with the hardness number. The ASTM test method designation is ASTM D2240 00. Related methods include ISO 7619 and ISO 868; DIN 53505; and JIS K 6301, which was discontinued and superceeded by JIS K 6253.

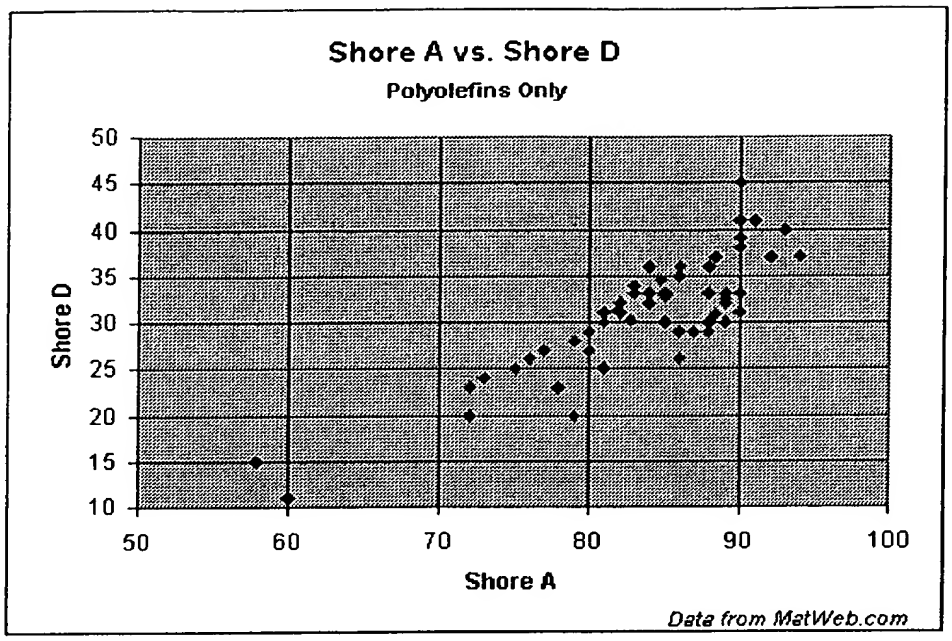
The results obtained from this test are a useful measure of relative resistance to indentation of various grades of polymers. However, the Shore Durometer hardness test does not serve well as a predictor of other properties such as strength or resistance to scratches, abrasion, or wear, and should not be used alone for product design specifications.

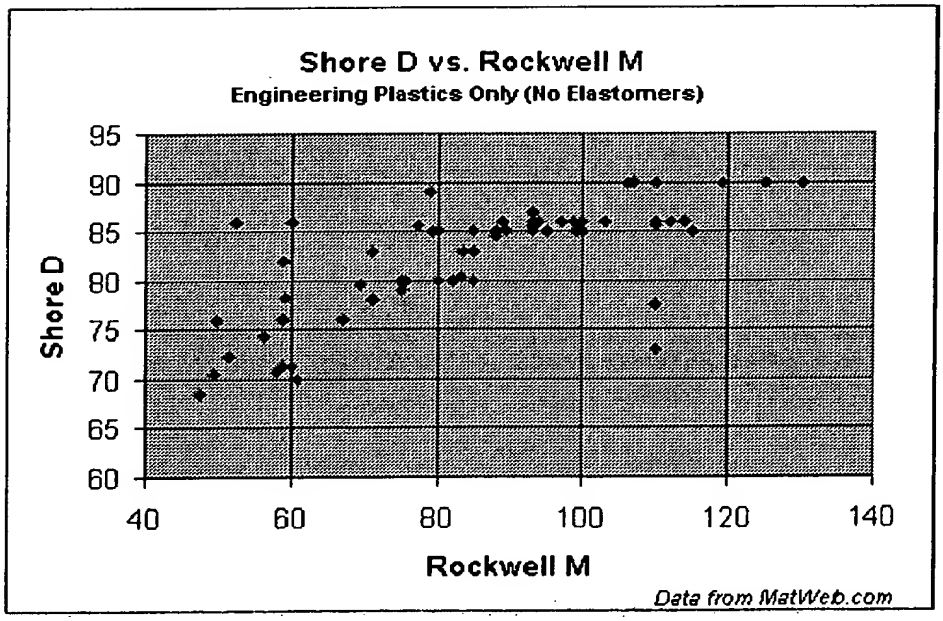
As seen in the charts below, the correlation between the two Shore Durometer hardness scales is weak; attempts at conversion between the scales are therefore discouraged. The correlation is higher for materials with similar resiliency properties, but is still too low for reliable conversions. Likewise, conversion between Shore Hardness and Rockwell hardness is discouraged.

*The charts below are taken from data in MatWeb's database provided by polymer manufacturers for specific product grades.*

## Comparison of Shore Hardness Scales




Shore A vs. Shore D
Polyolefins Only
Shore D
50
45
40
35
30
25
20
15
10
50
60
70
80
90
100
Shore A
Data from MatWeb.com


Shore D vs. Rockwell M
Engineering Plastics Only (No Elastomers)
Shore D
95
90
85
80
75
70
65
60
40
60
80
100
120
140
Rockwell M
Data from MatWeb.com